

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0006] of the specification as follows:

[0006] The invention includes, in one aspect, a method of treating a patient at risk of loss of cardiac function by cardiac ischemia. The method is practiced by ~~first~~FIR imaging the patient's heart, or a portion thereof, to identify (i) an underperfused region of cardiac muscle, (ii) a source of oxygenated blood that is proximate a boundary of the underperfused region, and (iii) a target area that includes the underperfused region boundary and a tissue expanse lying between the oxygenated blood supply and the boundary. A stimulus effective to stimulate angiogenesis in myocardial tissue and form a capillary network from the source of oxygenated blood in the direction of the underperfused region is introduced at each of a plurality of sites throughout the target area. The demand for oxygen the underperfused region is then sustained for a period sufficient to covert the capillary network into an arteriole network.

Please amend paragraph [0011] of the specification as follows:

[0011] In another general embodiment, the stimulus, or biologic trigger, introduced into the target-area sites is an injury produced by a mechanical, laser, chemical, thermal, or ultrasonic stimulus. This type of stimulus may be additive to the effect of a drug stimulus by turning on the local naturally-occurring angiogenic processes. In the process of adding a biologic trigger a new immediate tissue demand for oxygen is added which can be effectively used where Class 4 Angina is not available and exercise cannot be used due to related concerns. For example, the injury may be produced by a mechanical cutting device effective to produce an annulus of injury about a core of healthy cells. Alternatively, the injury may be produced by introducing into each of the sites, a wire device having a barbed segment, where the method further includes periodically moving the wire devices relative to the heart, to produce a prolonged angiogenic stimulus at the site. In another example the stimulus may include a mechanical injury produced by forming, at selected target sites in the target area, elongate channels in the endocardium of the ventricle to stimulate angiogenic growth from the ventricle to neighboring target regions as described above. The depth and width of the endocardial channels, combined with the blood turbulence produced within the ventricle, is such as to minimize accumulation of blood clot material in the channels. The channels have preferred width and depth dimensions between 1-5 mm. This embodiment of the method may further include imaging the heart to identify (i) as a second source of oxygenated blood,

coronary arterioles in the epicardial region of the ventricle overlying the underperfused heart-ventricle region, (ii) as a second target area the [[.]]area between the second source of oxygenated blood supply and the underperfused region, and the adjacent boundary of the underperfused region. There is then introduced into the second target area, at selected sites therein, a stimulus effective to stimulate angiogenesis in the target area. Sustained demand can also be created with chemical methods such as acidic injections, with implants that elicit a foreign body response, and with viral carriers which might be used to facilitate angiogenic gene transfer.